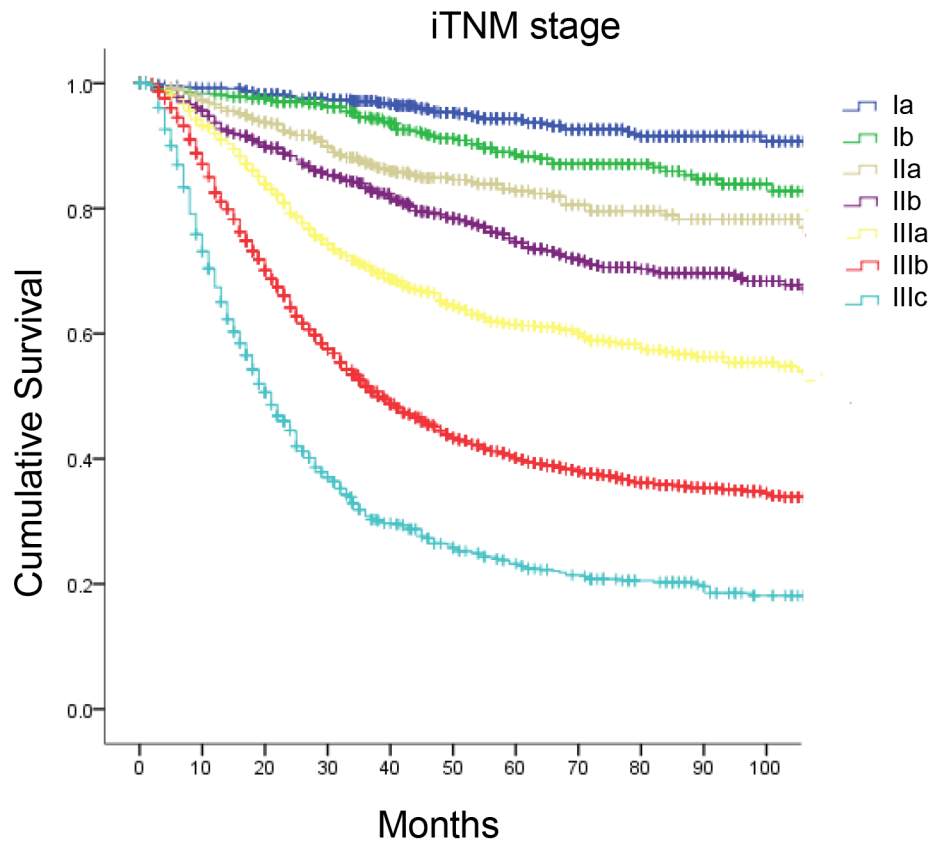
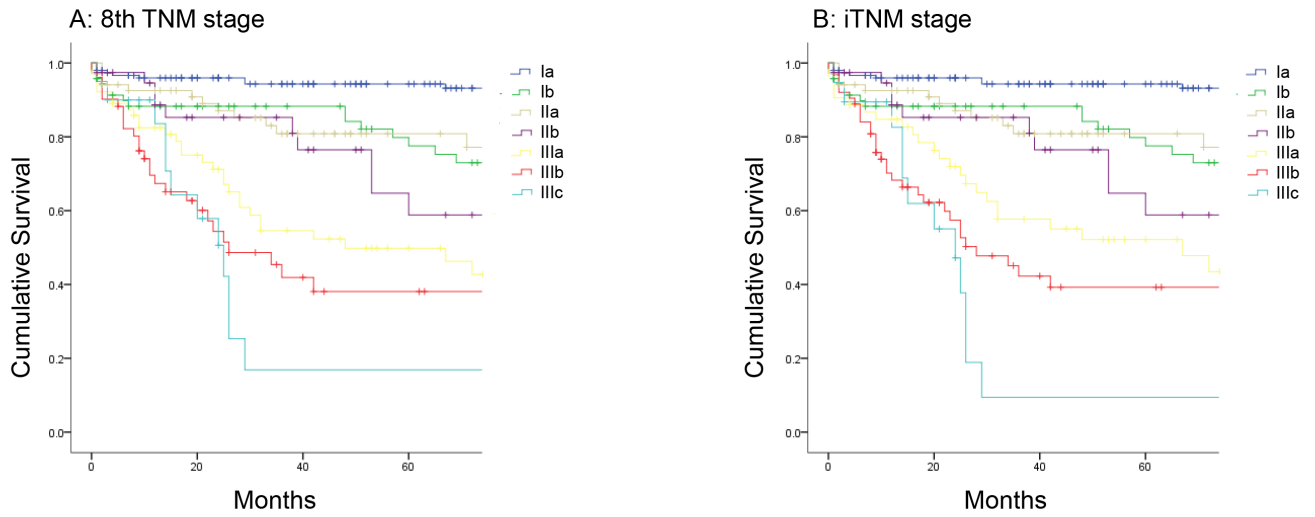


Figure Legends

Supplemental Figure 1. Comparison of survival curves according to the iTNM staging system.



Supplemental Figure 2. The survival curves of the validation set. (A) According to the eighth edition TNM staging system; (B) According to the improved TNM staging system.



Supplemental Table 1 Clinicopathological characteristics of the patients

| Characteristic | Development Cohort N=7191(%) | Validation Cohort N=465(%) |
|----------------------------|---------------------------------|-------------------------------|
| Age (median±SD) | 58.5±11.7 | 67.9±11.2 |
| Sex | | |
| Male | 5270(73.3) | 270(58.1) |
| Female | 1921(26.7) | 195(41.9) |
| Tumor size (cm, median±SD) | 5.1±2.8 | 4.2±2.4 |
| Tumor location | | |
| Upper | 2128(29.6) | 109(23.4) |
| Mid | 1318(18.3) | 155(33.3) |
| Lower | 2994(41.6) | 201(43.2) |
| Mix | 751(10.4) | |
| Histological type | | |
| Differentiated | 1667(23.2) | 246(52.9) |
| Undifferentiated | 5524(76.8) | 219(47.1) |
| Type of gastrectomy | | |
| Total | 3165(44.0) | 225(48.4) |
| Distal | 2733(38.0) | 233(50.1) |
| Proximal | 1293(18.0) | 7(1.5) |
| LN's resected; median ±SD | 28.4±12.6 | 27.9±12.2 |
| pT category | | |
| 1 | 1167(16.2) | 175(37.6) |
| 2 | 831(11.6) | 116(24.9) |
| 3 | 1391(19.3) | 112(24.1) |
| 4a | 3098(43.1) | 58(12.5) |
| 4b | 704(9.8) | 4(0.9) |
| pN category | | |
| N0 | 2257(31.4) | 241(51.8) |
| N1 | 1064(14.8) | 82(17.6) |
| N2 | 1330(18.5) | 56(12.0) |
| N3a | 1587(22.1) | 65(14.0) |
| N3b | 953(13.3) | 21(4.5) |
| 7th TNM stage | | |
| IA | 940(13.1) | 151(32.5) |
| IB | 554(7.7) | 71(15.3) |
| IIA | 604(8.4) | 69(14.8) |
| IIB | 917(12.8) | 39(8.4) |
| IIIA | 787(10.9) | 53(11.4) |
| IIIB | 1277(17.8) | 50(10.8) |
| IIIC | 2112(29.4) | 32(6.9) |
| 8th TNM stage | | |
| IA | 940(13.1) | 151(32.5) |
| IB | 554(7.7) | 71(15.3) |
| IIA | 604(8.4) | 69(14.8) |
| IIB | 913(12.7) | 39(8.4) |
| IIIA | 1506(20.9) | 64(13.8) |
| IIIB | 1513(21.0) | 51(11.0) |
| IIIC | 1161(16.1) | 20(4.3) |

Supplemental Table 2 Survival according to the T category and N category subgroups in the eighth edition of the TNM classification

| Stage | TN stage | 5-year OS(%) | P-1* | P-2* | P-3* | P-4* | P-5* | P-6* |
|-------|----------|--------------|-------|-------|-------|-------|-------|-------|
| la | T1N0 | 94.4 | - | | | | | |
| lb | T1N1 | 94.0 | - | | | | | |
| | T2N0 | 87.0 | 0.080 | | | | | |
| IIa | T1N2 | 85.2 | - | 0.654 | 0.963 | | | |
| | T2N1 | 82.2 | 0.654 | - | 0.468 | | | |
| | T3N0 | 82.3 | 0.963 | 0.468 | - | | | |
| IIb | T1N3a | 80.4 | - | 0.654 | 0.604 | 0.820 | | |
| | T2N2 | 72.5 | 0.654 | - | 0.789 | 0.483 | | |
| | T3N1 | 74.9 | 0.604 | 0.789 | - | 0.261 | | |
| | T4aN0 | 76.2 | 0.820 | 0.483 | 0.261 | - | | |
| IIIa | T2N3a | 55.2 | - | 0.405 | 0.258 | 0.283 | 0.189 | |
| | T3N2 | 58.1 | 0.405 | - | 0.626 | 0.002 | 0.169 | |
| | T4aN1 | 64.0 | 0.258 | 0.626 | - | 0.000 | 0.388 | |
| | T4aN2 | 49.1 | 0.283 | 0.002 | 0.000 | - | 0.005 | |
| | T4bN0 | 67.7 | 0.189 | 0.169 | 0.388 | 0.005 | - | |
| IIIb | T1N3b | 75.0 | - | 0.475 | 0.403 | 0.243 | 0.812 | 0.461 |
| | T2N3b | 50.8 | 0.475 | - | 0.843 | 0.322 | 0.230 | 0.977 |
| | T3N3a | 42.4 | 0.403 | 0.843 | - | 0.000 | 0.005 | 0.520 |
| | T4aN3a | 36.6 | 0.243 | 0.322 | 0.000 | - | 0.000 | 0.001 |
| | T4bN1 | 61.6 | 0.812 | 0.230 | 0.005 | 0.000 | - | 0.031 |
| | T4bN2 | 45.5 | 0.461 | 0.977 | 0.520 | 0.001 | 0.031 | - |
| IIIc | T3N3b | 26.5 | - | 0.340 | 0.181 | 0.436 | | |
| | T4aN3b | 22.9 | 0.340 | - | 0.002 | 0.942 | | |
| | T4bN3a | 32.0 | 0.181 | 0.002 | - | 0.012 | | |
| | T4bN3b | 22.8 | 0.436 | 0.942 | 0.012 | - | | |

*P: compared with each subgroup in the same TNM stage; P-1: compared to the first subgroup;

P-2: compared to the second subgroup; P-3: compared to the third subgroup;

P-4: compared to the fourth subgroup; P-5: compared to the fifth subgroup;

P-6: compared to the sixth subgroup